AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A nitride semiconductor product comprising an n-type layer, a light-emitting layer, and a p-type layer which are formed of a nitride semiconductor and sequentially stacked on a substrate in the above order,

said light-emitting layer having a quantum well structure in which a well layer is sandwiched by barrier layers having band gaps wider than the band gap of the well layer,

wherein each barrier layer comprises a barrier sublayer C which has been grown at a temperature higher than a growth temperature of said well layer, and a barrier sublayer E which has been grown at a temperature lower than a growth temperature of said barrier sublayer C, and said barrier sublayer C is disposed closer to said substrate with respect to said barrier sublayer E.

2. (original): A nitride semiconductor product according to claim 1, wherein the nitride semiconductor is represented by formula $In_xAl_yGa_{1-x-y}N$ ($0 \leq x < 1$, $0 \leq y < 1$, $0 \leq x + y < 1$).

3. (currently amended): A nitride semiconductor product according to claim 1 ~~or 2~~, wherein one or more of said barrier layers further comprise a barrier sublayer A which has been

grown at a temperature lower than a growth temperature of said barrier sublayer C, and said barrier sublayers A, C, and E are stacked, in this order.

4. (original): A nitride semiconductor product according to claim 3, wherein one or more of said barrier layers comprise a barrier sublayer B which has been grown at a temperature lower than a growth temperature of said barrier sublayer C, said barrier sublayer B intervening between said barrier sublayers A and C.

5. (currently amended): A nitride semiconductor product according to ~~any one of claims 1 to 4~~claim 1, wherein one or more of said barrier layers comprise a barrier sublayer D which has been grown at a temperature lower than a growth temperature of said barrier sublayer C, said barrier sublayer D intervening between said barrier sublayers C and E.

6. (currently amended): A nitride semiconductor product according to ~~any one of claims 1 to 5~~claim 1, wherein the difference between the growth temperature of said barrier sublayer C and the growth temperature of said well layer is 50°C or more.

7. (currently amended): A nitride semiconductor product according to ~~any one of claims 1 to 6~~claim 1, wherein the difference between the growth temperature of said barrier sublayer C and the growth temperature of said barrier sublayer E is 50°C or more.

8. (currently amended): A nitride semiconductor product according to ~~any one of claims 3 to 7~~claim 3, wherein the difference between the growth temperature of said barrier sublayer C and the growth temperature of said barrier sublayer A is 50°C or more.

9. (currently amended): A nitride semiconductor product according to ~~any one of claims 1 to 8~~claim 1, wherein the growth temperature of said well layer falls within a range of 600°C to 1,000°C.

10. (currently amended): A nitride semiconductor product according to ~~any one of claims 2 to 9~~claim 2, wherein said well layer comprises GaInN.

11. (currently amended): A nitride semiconductor product according to ~~any one of claims 2 to 10~~claim 2, wherein said barrier layer comprises GaInN or GaN.

12. (currently amended): A nitride semiconductor product according to ~~any one of claims 1 to 11~~claim 1, wherein at least one layer selected from said well layer and said barrier layer contains an n-type dopant.

13. (original): A nitride semiconductor product according to claim 12, wherein said n-type dopant is an Si.

14. (original): A nitride semiconductor product according to claim 12, wherein said n-type dopant is a Ge.

15. (currently amended): A nitride semiconductor product according to ~~any one of claims 12 to 14~~claim 12, wherein a concentration of said n-type dopant in at least one layer selected from said well layer and said barrier layer varies periodically.

16. (original): A nitride semiconductor product according to claim 15, wherein a layer containing said n-type dopant and an undoped layer are stacked alternately.

17. (currently amended): A nitride semiconductor product according to ~~claims 15 or 16~~claim 15, wherein a higher layer at the concentration of said n-type dopant is not thicker than a lower layer.

18. (currently amended): A nitride semiconductor product according to ~~any one of claims 12 to 17~~claim 12, wherein the layer containing said n-type dopant has an n-type dopant concentration of 1×10^{16} to 5×10^{19} cm^{-3}.

19. (currently amended): A nitride semiconductor light-emitting device comprising a nitride semiconductor product according to ~~any one of claims 1 to 18~~claim 1, a negative electrode provided on an n-type layer of said nitride semiconductor product and a positive electrode provided on a p-type layer of said nitride semiconductor product.

20. (currently amended): A light-emitting diode comprising a nitride semiconductor product according to ~~any one of claims 1 to 18~~claim 1.

21. (currently amended): A laser device comprising a nitride semiconductor product according to ~~any one of claims 1 to 18~~claim 1.

22. (currently amended): A lamp comprising a nitride semiconductor product according to ~~any one of claims 1 to 18~~claim 1.

23. (original): A method for producing a nitride semiconductor product, said method comprising sequentially stacking on a substrate a nitride semiconductor n-type layer, a nitride semiconductor light-emitting layer of a quantum well structure, and a nitride semiconductor p-type layer, thereby producing a nitride semiconductor product having a quantum well structure, wherein said method comprises

growing a well layer;

subsequently, elevating a growth temperature;

growing a barrier layer of the quantum well structure at the elevated temperature, which is higher than a growth temperature of the well layer;

subsequently, lowering the growth temperature; and

further growing the barrier layer at the lowered temperature.

24. (original): A method for producing a nitride semiconductor product according to claim 23, which further comprises growing said barrier layer before elevating the growth temperature.

25. (currently amended): A method for producing a nitride semiconductor product according to ~~claims 23 or 24~~claim 23, wherein growing of said barrier layer is performed in at least one step of elevating the growth temperature and lowering the growth temperature.

26. (currently amended): A method for producing a nitride semiconductor product according to ~~any one of claims 23 to 25~~claim 23, wherein said barrier layer contains an n-type dopant.

27. (currently amended): A method for producing a nitride semiconductor light-emitting device, said method comprising

a step of removing a portion of a light-emitting layer and a p-type layer of a nitride semiconductor product according to ~~any one of claims 1 to 18~~claim 1, thereby exposing an n-type layer,

a step of providing a negative electrode on the exposed n-type layer, and

a step of providing a positive electrode on the p-type layer.

28. (original): A method for producing a light-emitting diode, comprising a step of providing a lead to a nitride semiconductor light-emitting device according to claim 19.

29. (original): A method for producing a laser device, comprising a step of providing a lead to a nitride semiconductor light-emitting device according to claim 19.

30. (original): A method for producing a lamp, comprising a step of providing a cover containing a phosphor to a nitride semiconductor light-emitting device according to claim 19.